

Original Article

A comparative study of life satisfaction and psychological stress levels among male and female allied health college students

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Abstract

Gender differences in psychological disorders have distinct gender profiles, with males more susceptible to aggressive behavior, hypertension, and substance abuse and females more prone to depression and anxiety. Likewise, stress responses among both genders vary physiologically and psychologically, which could lead to complications in many ways. Therefore, this study aimed to determine gender differences in life satisfaction and psychological stress levels among allied health college students. Using a purposive sampling technique, a comparative cross-sectional study recruited 190 male and 190 female students. The self-administered questionnaire included questions related to sociodemographics and two validated scales, the Perceived Stress Scale (PSS-10) and the Satisfaction With Life Scale (SWLS). Descriptive statistics were calculated for the study variables, and the students' locality was compared by gender using the chi-square test. Moreover, other sociodemographics, PSS, and SWLS scores were compared by gender using the Mann-Whitney U test, and the chi-square test was used to determine gender differences in the outcomes of SWLS. The study results showed that the PSS and SWLS scores were higher among female students than their male counterparts, which were statistically significant ($p < 0.05$). Furthermore, female students were more satisfied with their life than male students, which was also statistically significant ($p < 0.05$). Our study highlights that female first-year allied health students are more likely to encounter psychological stress, despite being more satisfied with their lives than male students. Therefore, establishing a student support committee within the allied health faculty or university is recommended to provide counseling and guidance in healthy ways to cope with psychological stress for both male and female students.

Keywords

Gender differences; Personal satisfaction; Life stress; Psychological stress; Allied health students

1. Introduction

Psychological stress is a cognitive and behavioral experience leading people to react in several ways [1]. It accompanies widespread effects affecting mental capabilities, limiting thinking capacity, creativity, sense of pleasure, relaxation, and social networking, or reducing physical activities [2]. Stress is attributed to changes in the body's neurotransmitters and can emerge from various disorders, such as depression [3]. It also affects significant physiological systems of the human body, including the hypothalamic-pituitary-adrenal pathway, the autonomic nervous system, and the immune system [4]. Moreover, stress can influence the body's reaction, including feelings and responses to alarming situations [5]. People suffering from stress may experience mild to moderate feelings of being restless, nervous, furious, forceful, touchy, baffled, miser, and discouraged [6].

Demographics are vital determinants of population health. Gender differences in psychological disorders have distinct gender profiles [7, 8]. For instance, males are more susceptible to aggressive behavior, hypertension, and substance abuse. At the same time, conditions such as depression and anxiety are more prevalent among females. Additionally, stress responses among both genders vary widely physiologically and psychologically, which could lead to complications in many ways and at different intervals [9, 10]. Stress-coping skills are pivotal to preventing poststress complications [11]. Understanding and exercising stress coping skills is a debatable area among the genders but a limitation of our study [12].

Currently, stress is common among female and male college students who report being more stressed than ever before [13, 14]. Various studies have reported differences in students of both genders, where males experience a marginal amount of stress compared to their female counterparts, with no differences in coping with stress [15, 16]. Stress is attributed as an impediment to a student's academic performance, underlining various stressors such as educational nature, social isolation, inflexible study schedules, tight timeframes, the burden of high fees, growing parents' expectations, peer pressure, and future anxiety [17, 18, 19]. In addition, the new intake of students experiences a high stress level due to environmental changes [20]. A study found that nearly one-third of newly admitted students are most prone to become addicted to drugs, including marijuana, alcohol, and nicotine, to cope with various stress factors [20].

The situation of Pakistani students does not differ from other countries, and students experience a significant amount of psychological stress leading to mild to moderate effects on their physical health. However, a higher stress level is prevalent among female students than male students [21]. Therefore, it is a pressing priority to understand the general and genderwise comparison concerning psychological stress among college students.

The results of the Kumar et al. study showed a negative correlation between life satisfaction and stress level among college students enrolled in various disciplines, including engineering, social sciences, and medical sciences, with the reported stress levels ranging between 17% and 23% [22]. It is learned by the authors that college students are exposed to mental health issues which have been well recognized in western societies as a serious public concern. Unfortunately, it requires serious attention in Eastern societies such as Pakistan, where several aspects of this phenomenon are still unclear concerning the youth population [22]. Therefore, this study was conducted to determine gender differences in life satisfaction and psychological stress levels among allied health college students.

2. Materials and methods

2.1. Study design

The present study employs a comparative cross-sectional design.

2.2. Ethical considerations and approval

The Ethics Review Committee of Hussain College of Health Sciences approved this study (No. HCHS/2021/ERC/07). Moreover, the study adhered to international ethical principles for conducting research involving human participants.

2.3. Study duration

Data were gathered between April and August 2021.

2.4. Study setting

This study was conducted at a public university, i.e., Government College University Faisalabad (GCUF), and its privately affiliated health sciences colleges in Lahore.

2.5. Participant recruitment

The study recruited male and female students aged 18 years and above who were enrolled in the degree program as regular students and physically attending classes on campus for at least six months but not more than a year. To avoid potential confounding effects, students with preexisting psychiatric or medical conditions or disabilities that could affect their life satisfaction and psychological stress levels were excluded from the study. Moreover, students with physical disabilities that may prevent them from completing the study questionnaire were also excluded.

2.6. Sample size and sampling technique

The estimated population proportion of severe stress levels among male students was 11.7%, while it was 30.00% among female students, as reported in a previously conducted study [23]. Sample size calculation was then performed using the World Health Organization (WHO) sample size calculator for hypothesis testing on two population proportions, with a significance level of 5% and a power of 95%. Based on these proportions, the calculated sample size was 126. However, to account for potential dropouts, refusals, and other factors that may affect participation rates, the final sample size was increased to 190 male and 190 female students. In this study, a purposive sampling technique was employed to select a sample representative of the target population, i.e., allied health college students, who are a homogeneous group of individuals.

2.7. Study instrument development

The study instrument for this research consisted of a questionnaire comprising students' sociodemographic information and two validated scales: the Perceived Stress Scale (PSS-10) and the Satisfaction with Life Scale (SWLS) [24, 25].

2.8. Data collection procedures

The data collection procedure for this study involved self-administered surveys, where participants were provided with questionnaires and a consent form. Any questionnaires received by the survey administrator without written informed consent or with incomplete consent forms were excluded from the analysis.

2.9. Study measures

The study collected sociodemographic information from participants, including age (in years), gender (male, female), monthly household income in Pakistani rupees (PKR), and locality. Two validated scales were employed to measure stress and life satisfaction: the Perceived Stress Scale (PSS-10) and the Satisfaction with Life Scale (SWLS) [24, 25].

The PSS-10 scale consists of ten questions that measure an individual's subjective perception of stress. Participants rated their responses on a five-point Likert scale from 'never' to 'very often,' with scores ranging from 0 to 4, except for items 4, 5, 7, and 8, whose scores were reversed before calculating the final score [26]. The PSS score was obtained by summing all item scores, indicating levels of perceived stress in ascending order.

The SWLS scale comprises five questions that measure an individual's global cognitive judgment of their own life satisfaction. Participants rated their responses on a seven-point Likert scale ranging from 'strongly disagree' to 'strongly agree.' A score ranging from 5 to 35 was obtained by summing all items' scores. The final score was used to categorize satisfaction with life as extremely dissatisfied (5 – 9), dissatisfied (10 – 14), slightly dissatisfied (15 – 19), neutral (20), slightly satisfied (21 – 25), satisfied (26 – 30), and extremely satisfied (31 – 35) [27].

2.10. Statistical analysis

Data were analyzed using IBM SPSS Statistics version 26.0 (IBM Corp., Armonk, NY, USA). Descriptive statistics, including frequencies, percentages, medians, and interquartile ranges (IQRs), were computed for all study variables. The association between students' locality and gender was examined using the chi-square test. In addition, the Mann-Whitney U test was used to compare sociodemographic indicators, PSS, and SWLS scores by gender. The chi-square test was also used to assess gender differences in the outcomes of SWLS. A *p* value of less than 0.05 was considered statistically significant.

3. Results

Table 1 displays the age distribution of the study participants, revealing an average age of 19 years (IQR = 1.00). Analysis of the data demonstrated that female students had a higher median monthly household income (PKR 45,000; IQR = 18,875) than male students (PKR 38,000; IQR = 26,250), with a statistically significant difference between the two groups (*p* < 0.05). The majority of male (63.16%) and female (76.32%) students reported living in urban areas.

Table 1. Demographic indicators of allied health college students by gender (n = 380).

Demographic Indicators	Males n = 190		Females n = 190		<i>p</i> value *, **
	Median	IQR	Median	IQR	
Age (in years)	19.00	1.00	19.00	1.00	0.537
Monthly household income (in PKR)	38,000.00	26,250.00	45,000.00	18,875.00	0.004 ***
Locality of students	Urban, N (%)	120 63.16	145 76.32		0.005 ***
	Rural, N (%)	70 36.84	45 23.68		

* Variables are compared using the Mann-Whitney U test. ** The students' locality is compared using the chi-square test. *** Significant at *p* < 0.05.

The results presented in Table 2 indicate that female students had a higher median PSS score (21.00) than their male counterparts (20.00). Similarly, female students had a higher median SWLS score (24.50) than male students (20.50), with both differences being statistically significant (*p* < 0.05).

Table 2. Genderwise differences in PSS and SWLS scores among students (n = 380).

Study Variables	Males n = 190		Females n = 190		<i>p</i> value *
	Median	IQR	Median	IQR	
PSS	20.00	5.00	21.00	7.00	0.041 **
SWLS	20.50	10.00	24.50	8.00	0.019 **

* PSS and SWLS scores are compared using the Mann-Whitney U test. ** Significant at *p* < 0.05.

Table 3 shows that female students expressed higher levels of satisfaction with their life, with 32.63% being slightly satisfied, 30.53% being satisfied, and 5.79% being ex-

tremely satisfied. In comparison, male students had lower levels of satisfaction, with 17.89% being slightly satisfied, 29.47% being satisfied, and 2.63% being extremely satisfied. These differences were statistically significant ($p < 0.05$).

Table 3. Genderwise differences in SWLS outcomes (n = 380).

SWLS Outcomes	Males n = 190		Females n = 190		p value *
	N	%	N	%	
Extremely dissatisfied	0	0.00	3	1.58	0.001 **
Dissatisfied	44	23.16	28	14.74	
Slightly dissatisfied	21	11.05	17	8.95	
Neutral	30	15.79	11	5.79	
Slightly satisfied	34	17.89	62	32.63	
Satisfied	56	29.47	58	30.53	
Extremely satisfied	5	2.63	11	5.79	

* Variables are compared using the Chi-square test. ** Significant at $p < 0.05$.

4. Discussion

The results of this study revealed several important findings regarding the demographic characteristics and psychological well-being of allied health college students. Female students reported a significantly higher level of perceived stress than their male counterparts, as measured by the PSS-10 scale. Furthermore, female students had a significantly higher global cognitive judgment of their own life satisfaction, as measured by the SWLS scale. The results suggest that gender may play a significant role in the psychological well-being of allied health college students. These findings have important implications for healthcare providers and policymakers, who should consider gender differences when designing interventions to promote college students' mental health and well-being.

Our study's findings are consistent with a previous Turkish study that examined the association between perceived stress and life satisfaction using the SWLS and PSS scales among 235 college students [28]. The study found a negative correlation between SWLS and PSS scores ($p < 0.05$), indicating that students were satisfied with their lives, but their satisfaction was negatively impacted by college stress. Additionally, female students reported higher life satisfaction scores than their male counterparts [28]. Therefore, the higher stress levels experienced by female students may be attributed to their increased susceptibility to psychological pressures and higher academic stress levels than their male counterparts [29].

Another study compared perceived stress and life satisfaction between Turkish and American university students and reported no significant gender differences within each country [30]. However, research has consistently shown that females are more vulnerable to stress and have fewer coping resources than their male counterparts [31]. For female students, stress may stem from personal reasons such as emotional overload, family dynamics, peer pressure, lack of parental support, family environment, restrictions from families, limited travel options, and financial dependence [32].

A study conducted in the United States (US) using SWLS and PSS scales found a negative correlation between general life satisfaction and college students' stress [33]. The study's findings indicate that college stress adversely affects life satisfaction, as supported by the negative correlation between SWLS and PSS scores. Moreover, the study reported higher levels of college stress among female students than their male peers [33], which is consistent with our study's results. Satisfaction with life among male and female

students may be influenced by factors such as their relationships with parents, close friends, socioeconomic status, and living arrangements [34]. Moreover, female students may experience stress due to academic reasons, including class schedules, high-performance expectations, demanding study routines, and lower grades [35, 36].

A Pakistani study recruited 152 male and 123 female university students to determine the impact of gender on life satisfaction using SWLS [37]. Contrary to our study's findings, the study reported no significant difference in life satisfaction by gender. However, life satisfaction was positively correlated with age, and cultural difference was identified as a predictor of life satisfaction. Male and female students' life satisfaction can also be influenced by studying the desired discipline, being in the department of choice, having work experience, and having self-reported mental health status [38]. These factors can lead to higher student satisfaction, better academic performance, and lower stress levels [39].

In contrast with our findings, a study of medical students using the State Trait Anxiety Inventory (STAI) and Life Satisfaction Index reported that 63.4% of participants had low life satisfaction, but there was no significant difference by gender [40]. Another study assessed life satisfaction and life demand and found that male and female students were highly satisfied with life despite a demanding lifestyle [41]. However, students with lower life satisfaction had low personal stress. Additionally, a Malaysian study assessing gender differences in stress and life satisfaction reported no significant difference [42]. Age also plays a vital role in life satisfaction, as studies have shown that with age, students adapt to changes, develop better coping skills, deal with challenges more effectively, and improve their quality of life [43].

This study has several strengths, including its location at a major university in Punjab, one of Pakistan's most populous provinces, and its focus on young health sciences students from diverse socioeconomic backgrounds. However, it bears mentioning that these findings may not apply to other provinces in Pakistan. Therefore, further large-scale studies are imperative to address the literature gap and support health science students' mental health and well-being. Nonetheless, the results of this study provide valuable insights into the psychological well-being of allied health college students, which could be used to develop targeted interventions for this population.

5. Conclusions

Our study highlights that female first-year allied health students are more likely to encounter psychological stress, despite being more satisfied with their lives than male students. Therefore, we recommend establishing a student support committee within the allied health faculty or university to provide counseling and guidance in healthy ways to cope with psychological stress for both male and female students. This committee could be staffed by trained professionals, such as psychologists or mental health counselors, and could offer stress-management workshops and individual counseling sessions.

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Ethics statement: The Ethics Review Committee of Hussain College of Health Sciences approved this study (No. HCHS/2021/ERC/07).

Consent to participate: Informed consent was obtained from all students included in the study.

Data availability: The data supporting this study's findings are available from the corresponding author, Hira, upon reasonable request.

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Conflicts of interest: The authors declare no conflicts of interest.

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